

REMARKS

In accordance with the foregoing, claims 1-5 and 18. Claims 1-7 and 18 are pending and under consideration. No new matter has been presented.

ENTRY OF RESPONSE UNDER 37 C.F.R. §1.116:

Applicant(s) request(s) entry of this Rule 116 Response and Request for Reconsideration because:

(a) it is believed that the amendment of claims 1-5 and 18 puts this application into condition for allowance as suggested by the Examiner;

(b) the amendments of claims 1-5 and 18 should not entail any further search by the Examiner since no new features are being added or no new issues are being raised;

(c) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." (Underlining added for emphasis) Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. §112:

Claims 2-5 are rejected under 35 U. S. C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 5 have been amended to clarify the present invention.

In view of the proposed amended title set forth above, the outstanding objection to the title should be resolved.

REJECTION UNDER 35 U.S.C. §102:

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Gotoh et al. (US Patent No. 5,801,765).

Claim 1 has been amended to recite "a first histogram detection unit and a second histogram detection unit to compute concurrently a first histogram and a second histogram from

input first frame color signal and second frame color signal.”

The Examiner asserts that Gotoh et al. teaches “storing two image frame data separately to detect the scene change; and converting the stored two frame data into the first signal.”

Gotoh et al. discloses “A video signal input to the video input terminal 1 is sampled by the picture capture means 2 at a certain interval, and the brightness information for one frame is captured therein. The brightness information for each pixel is quantized into a prescribed level, and the brightness histogram for one frame is created by the histogram creation means 3. At this stage, the switch means 4 switches two histogram storage means 5, 6 for every processing, so that the result of the histogram creation means 3 is stored either of the two histogram storage means. Thus the other stores the histogram of the previous frame.”(col. 9, lines 49-59).

It is noted that Gotoh et al. discloses only one histogram creation means. That is, it would take twice time than that of the present invention, which to process concurrently process for two frames.

Thus, Gotoh et al. does not disclose “a first histogram detection unit and a second histogram detection unit to compute concurrently a first histogram and a second histogram from input first frame color signal and second frame color signal” as recited in claim 1.

As such, it is respectfully submitted that Gotoh et al. does not disclose the invention as recited in claim 1.

Claim 5 has been amended to clarify the present invention.

Regarding claim 5, Gotoh et al. merely discloses “a brightness histogram for one frame is made by a histogram creation means 102(col. 1, lines 58-60).

However Gotoh et al. fails to disclose “wherein the first histogram detection unit and the second histogram detection unit concurrently quantize the input first frame color signal and second frame color signal to signal bands” as recited in claim 5.

Accordingly, it is respectfully submitted that Gotoh et al. does not disclose the invention recited in claim 5.

Claims 1-7, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima (U.S. Patent No. 5,719,643).

By way of review, Nakajima merely discloses “the contracted image processing units 3 and 4 then produce contracted image of luminance and chrominance data on the basis of the average values thus obtained. More particularly, the contracted image processing unit 3 produces contracted image of luminance and chrominance signals as shown in FIGS. 3B and 3C”(col. 4, lines 52-57).

As noted above, Nakajima merely discloses contracted image processing unit to produce

contracted image of the of luminance and chrominance signal.

However, Nakajima fails to disclose “a cross correlation coefficient calculation unit calculating a correlation value between the first histogram and the second histograms of the first frame color signal and second frame color signal concurrently computed by the first histogram detection unit and the second histogram detection unit” as recited in claim 1.

Furthermore, claim 2 recites “first and second color space conversion units converting the image frame data stored in the first and second frame buffers into the first and second color signals to be outputted to the first and second histogram detection units.”

However, Nakajima discloses “designated at 5 is an inter-frame difference unit for receiving luminance signal contracted image from the contracted image process units 3 and 4 and obtaining, from the received contracted image.”(col. 4, lines 6-10) but fails to disclose “a first color conversion unit and a second color space conversion unit to convert the image frame data stored in the first frame buffer and the second frame buffer into the first frame color signal and second frame color signal to be outputted to the first histogram detection unit and second histogram detection unit, concurrently” as recited in claim 2.

As such, it is respectfully submitted that Nakajima does not disclose the invention recited in claims 1 and 2.

Regarding claims 3 and 4, the Office Action sets forth that Nakajima discloses the color signals are luminance and chroma signals (Col 4, lines 4-7)

By way of review, Nakajima discloses “[a] still further feature of the invention resides in determining a cut frame from a temporal change in the inter-frame luminance difference of an input video frame and a temporal change in the chrominance histogram correlation of the input frame, obtaining the chrominance histogram correlation among detected cut frames, and judging a cut frame group from the chrominance histogram correlation among the cut frames.”

As such, Nakajima discloses a scene change detector using both luminance signal and chrominance signal but fails to disclose a scene change detector using either luminance signal or chrominance signal.

Accordingly, it is respectfully submitted that Nakajima does not disclose the invention recited in claims 3 and 4.

Regarding claim 5, the Office Action sets forth that Nakajima discloses the histogram each calculate the number of pixels having the same values of the quantized first and second color signals with respect to all pixels in a predetermined frame region.”

Claim 5 recites “the first histogram detection unit and the second histogram detection unit concurrently quantize the input first frame color signal and second frame color signal to signal

bands.”

Nakajima discloses “it is assumed that each element data of the contracted image of the chrominance signals U and V obtained in the contracted image processing units 3 and 4 consists of 8 bits, for instance.”

Thus, Nakajima fails to disclose “the first histogram detection unit and the second histogram detection unit concurrently quantize the input first frame color signal and second frame color signal to signal bands” as recited in claim 5.

In addition, claims 6 and 7 are deemed to be patentable due at least their depending from claim 1, as well as for the additional recitation therein.

Regarding claim 18, the Office Action sets forth that Nakajima teaches “converting the stored two frame data into the first and second color signal (A and B, Fig. 2).”

By way of review, Nakajima discloses “output of the contracted image processing unit 3 and 4 is contracted image of chroma signal and luminance signal”(emphasis added) but fails to disclose “converting the stored two frame data into the first frame color signal and the second frame color signal” as recited in amended claim 18.

Accordingly, it is respectfully submitted that Nakajima does not disclose the invention recited in claim 18.

REJECTION UNDER 35 U.S.C. §103:

Claims 6 and 18 are rejected under U.S.C 103(a) as being unpatentable over Gotoh et al. (U.S. Patent No. 5,801,765) in view of Park (US Patent 6,995,805).

The Office Action acknowledges that Gotoh et al. fails to disclose “the detecting a scene change when a correlation value is lower than a threshold.”

Park discloses “determining whether the metrics of successive ones of each of a first plurality of frames, successively following the candidate frame, differ from one another by less than a second threshold, and further determining whether the metrics of each frame of a second plurality of frames, successively preceding the candidate frame, are larger than a third threshold.”(abstract)

That is, in order to detect scene change, Park requires more than two frames to determine scene change.

Even though, it is assume that Park disclose “the detecting a scene change when a correlation value is lower than a threshold.”

The combination of Gotoh et al. and Park can not get the invention as recited in claim 6.

Accordingly, it is respectfully submitted that the combination of Gotoh et al. and Park does

not teach or suggest the invention recited in claim 6.

Claim 18 recites "computing first and second histograms with respect to input first frame color signal and second frame color signal, concurrently.

Gotoh et al. discloses "A video signal input to the video input terminal 1 is sampled by the picture capture means 2 at a certain interval, and the brightness information for one frame is captured therein. The brightness information for each pixel is quantized into a prescribed level, and the brightness histogram for one frame is created by the histogram creation means 3. At this stage, the switch means 4 switches two histogram storage means 5, 6 for every processing, so that the result of the histogram creation means 3 is stored either of the two histogram storage means. Thus the other stores the histogram of the previous frame." (col. 9, lines 49-59 and also see FIG. 5)."

Accordingly, it is respectfully submitted that the combination of Gotoh et al. and Park does not teach or suggest the invention recited in claim 18.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: 
Sang Chul Kwon
Limited Recognition No. L0218

1201 New York Avenue, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501